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THE POTENTIAL OF MOVING PICTURES

DOES PARTICIPATORY VIDEO ENABLE LEARNING FOR LOCAL INNOVATION?

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Abstract

Learning is essential for local innovation and enhancing the ability of the rural clients to discover new solutions to prevailing challenges. Equally, the growing complexities of the challenges in the theatre of agriculture and rural development require multi-actor learning process. Participatory communication through face-to-face interaction remains an important approach to support local people's innovation capacity. Is there any mean other than face-to-face interaction that enables learning for innovations? Video has been used for several decades, however, in most cases instrumentally as a mass media for expert information dissemination. In recent years the interest in the alternative use of video, mostly known as participatory video, has grown. This study attempts to understand the potential of participatory video to support learning for local innovation by reviewing available literature about the cases of participatory video in the field of agriculture and natural resource management. A deductive coding approach was employed in order to identify the potentials of participatory video. The documented cases we found in the literature suggest that participatory video has a substantial role for both vertical and horizontal flow of local knowledge and information in a multi-actor setting. It creates a '*safe space*' for communication where different actors are able to articulate their perceptions. What follows, actors get an opportunity for reciprocal learning process. Participatory video facilitates communication for the marginalized segment of developing nations in Asia and Africa to represent their knowledge and skills and to link these to other knowledge bodies such as scientific, formal, managerial and bureaucratic. Participatory video stimulates reflection and experimentation by creating new impetus for learning within and across stakeholder (actor) groups. Nevertheless, potentials of participatory video depend on careful analysis of social competencies of facilitators, institutional ambience and role of intermediaries and facilitating organizations. We also proposed future research angles on these issues.

Key words: Local innovation, participatory video, agriculture, natural resource management, social learning

1. INTRODUCTION

Low adoption of technological innovations is, in the first place, associated to the '*linear ways of thinking*' and top-down approaches followed in communication for development during the last decades (Röling, 1996; Rivera, 2001). There are certain agricultural innovations that spread like wildfire, while others do not spread at all, even when pushed very hard (Engel, 1997). Agricultural research and development professionals generated technological packages that were unsuitable for complex and risk prone farming conditions of resource poor farmers (Chambers, 1989; Chambers & Jiggins, 1987). In retrospect, they missed the opportunities to reduce the poverty in a cost-effective way (Biggs & Matsuert, 2004). There is a growing concern on shifting and balancing communication for development from

instrumental to more participatory and decentralized approach (Leeuwis & Van den Ban, 2004). Juxtaposed, there are changing views on innovation in agriculture and natural resource management (NRM).

It is increasingly recognized that there are multiple sources of innovation and multiple actors are engaged in an innovation process through feedback, learning and collective action (Qamar, 2005). Since more and more actors enter into the theatre of agriculture and rural development in anticipated and unanticipated ways, and complexities of farm problems increase, social learning is becoming an important element for innovation process (Leeuwis & Van den Ban, 2004). With regard to primary clients (e.g. farmers, pastoralists, fishing communities among others) it is necessary to enhance their ability to observe, interpret, anticipate and apply principles of farming practices (Deugd *et al.*, 1998). In contrary, facilitating actors (researchers and development workers) are to celebrate new procedures and process to listen and learn from their mistakes and from their interaction with different actors (anticipated and emerging ones) as appear into the scene (Röling, 2009b; Leeuwis & Pyburn, 2002). It follows that social process of innovation deserves significant attention i.e. how knowledge is generated and put into economically, socially and culturally productive services. It is also necessary to accentuate local peoples' capacities and resources e.g. new technologies, management practices and institutions that they develop (Waters-Bayer *et al.*, 2009).

Facilitating participatory communication that enables learning and enhances local innovation capacities is a key challenge. Video has been used for several decades, mostly as a form of mass media for information dissemination (Johansson & de Waal, 1997). Broadcasting video through television (TV) can reach out large audience but often has limitation of linear and one-way communication. It provides general information that has less practical use (Gandhi *et al.*, 2009). Enhancing farmers' innovation capacity by documenting and dissemination through mass media is scarce and face-to-face interaction is still considered as one of the important strategies for development of resource poor farmers (Berdegué & Escobar, 2001).

When the Food and Agriculture Organization (FAO) started using video to recover, preserve and produce farmers' knowledge in Peru and Mexico in the 1970s (Fraser, 1987; Fraser & Estrada, 1996), the organization was criticized for using a sophisticated technology in a rural setting (Ramírez, 1998). Later, it turned out that video could be used as a cost-effective tool to enhance group development (Harding, 1997). This form of video, known as participatory video (PV), has now been used for engaging stakeholders, facilitating development dialogues and sharing local innovations (Lunch, 2004; White, 2003b). However, practitioners and rural development professionals often use PV sporadically (Huber, 1999; White, 2003b). Studies to understand the '*praxeology*'¹ of PV in innovation and development are scarce. Therefore, this study reviews contemporary literature on participatory use of video and innovation studies in agriculture and NRM in order to understand potentials of PV from the theoretical hindsight.

We will elaborate the concept of PV in the *third section*, followed by a discussion on learning process for local innovation in the *fourth section*. The *fifth section* presents praxis of some selected cases of PV that have strong link to social learning for strengthening capacity of local innovation. *Finally*, we reflect on the praxis and theories to justify our argument that PV has potential to enable learning for local innovation.

2. METHODS

¹ *Praxeology* is theory informing praxis. Facilitation of innovation is usually marked by uncertainty and failure, and requires continued reflection and rethinking for ground for action. Continuous scrutiny of the theories that inform praxis deserve considerable attention (Deugd *et al.*, 1998).

We reviewed pertinent publications on PV relevant to supporting local innovation in agriculture and NRM as followed by various authors, such as Braden (1999) who examined the participatory use of video from the perspectives of representation by the under-represented recipients of development initiatives and the implications for development practitioners and policy makers. We retrieved different publications using databases such as Scopus, Science Direct, CAB Abstracts, Google Scholar and Digital Library of the Commons. The main key words that were used separately and in combination include 'video', 'participatory video', 'innovation', 'local innovation', 'social learning', 'local knowledge', 'communication'. In synthesizing the publications we followed systemic literature review (Weed, 2005)- a process of reviewing literature comprehensively on a specific topic and appraising the selected ones according to some excluding criteria. We included publications on the selected cases that address the participatory use of video in the context of local knowledge, participation and innovation of agriculture and NRM, and articles related to conceptual and theoretical significance to justify the argument of the paper. Primary attention was given to publications in peer reviewed journals and books. Since there are paucity of scientific information about PV (Huber, 1999; White, 2003b) we also included project reports, working papers, thesis (published and unpublished) and scientific magazine to justify our argument. We followed descriptive and qualitative content analysis (Bernard, 2006) as part of our analytical approach using text, quotations and descriptive statistics and objectively collected '*interpretation of message*' from the available literature.

3. PARTICIPATORY VIDEO

There is a general agreement about video in the form of mass media as being an intrusive cultural force. But it may neglect local peoples' voice and violate cultural values (White, 2003b: 58). For instance, TV usually conditions us to accept video as a medium in which we are passive. PV has been emerged as a participatory communication tool that surpassed power of broadcast TV to support individual learning and human resource development (White, 2003a).

Johansson *et al.* (1999) defined PV as,

'a scriptless video process, directed by a group of grassroots people, moving forward in iterative cycles of shooting–reviewing. This process aims at creating video narratives that communicate what those who participate in the process really want to communicate, in a way they think is appropriate.'

Lunch & Lunch (2006) described PV as,

'a set of techniques to involve a group or community in shaping and creating their own film. The idea behind this is that making a video is easy and accessible, and is a great way of bringing people together to explore issues, voice concerns or simply to be creative and tell stories (...) a highly effective tool to engage and mobilise marginalized people and to help them implement their own forms of sustainable development based on local needs.'

The definitions emphasise the participatory communication function of PV. The process involves people in an interactive way, making communication resources accessible to them directly, in turn, helping the grass roots people acquire knowledge and skills that enable a partnership in generating messages (White, 2003b: 36-37). Participatory communication functions as a catalyst for action and as a facilitator of knowledge acquisitions and knowledge sharing among people (Nair, 1994). PV is a distinct process of using communication channels and techniques to encourage people's participation in development and to provide information. This character marks the departure of PV from the conventional filmmaking. Unlike the conventional filmmaking in rural development (e.g. documentary including instructional training video), PV focuses on collective authority of the relevant actors in different stages (e.g. shooting, script, content, audience) of video making (Mda, 1993).

However, projects may have specific development goals at stake and follow diversity of approaches and methods. In the opinion of Huber (1999), '*PV refers to a bundle of alternative applications of video technology in development projects. Its goal is to bring about social change. There is no single accepted way of doing participatory video.*' Primary stakeholders may co-opt, consult, or cooperate and a professional film crew may be involved for the production of a video. Local people may also direct the process through co-learning and taking collective action in different stages of making a video (Bery, 2003). Generally, PV projects have different overarching functions which are either therapy, activism and empowerment (Huber, 1999). Lie & Mandler (2009) have proposed the term '*video for development*' over '*participatory video*' to draw attention on diversity of approaches followed in using video to solve development problems. They have proposed several overarching typologies: video for awareness raising and advocacy, video for stakeholder engagement and action, video for capacity building and video for reporting and data collection. These typologies serve as guiding principles to grasp different ways of video application and associated functions in communication for development.

Diversities in PV methods and approaches are due to relative importance laid on technical and social capabilities. According to Nemes *et al.* (2007) technical skills are necessary but the primary benefits of PV are social. Usually, most filmmakers focus on making good quality films and there is often tension between technical and social competences. We can notice the tension in terms of discussion about *product* and *process*. PV emphasizing *process* places less importance on the actual tape than on the process of developing it. Important outcomes are the interaction of individual and their own personal growth that comes about during the process of production (Guidi, 2003). White (2003b) explained the *process* elements of PV more comprehensively,

'video as process is simply a tool to facilitate interaction and enable self-expression. It is not intended to have a life beyond the immediate context. We have control over the life of a tape to meet our unique purposes. Once those purposes are achieved, the tape itself is no longer relevant.'

In a general term both aspects are important for a PV project. The danger is that many projects claim to have made PV because the content is about participation (cf. Huber, 1999). In no case, one should neglect the process at the expense of the product (Nemes *et al.*, 2007). PV requires re-orientation of professional and social skills of the facilitators. We can identify a process as non-participatory when the quality of a production (the film) becomes an overriding concern at the expense of the interaction of the participants (Shaw & Robertson, 1997).

4. LEARNING FOR LOCAL INNOVATION

The concept of innovation is a guiding principle in the field of agricultural extension and rural development and is a matter of permanent debate. For a long time, innovation has been considered as the end-of-pipe outcome of a linear process, that runs from fundamental research, via applied and adaptive research, subject matter specialists, extension, and contact farmers, to widespread diffusion among follower farmers (Röling, 2009a). Innovation is a '*simple*' technological device (new crops, varieties, and tools) being adopted or rejected by an individual, depending on all kinds of social conditions, among others. The focus is on transferring knowledge as an objective reality. Learning is an individual act of imitation and passive absorption and reception of knowledge (Röling & De Jong, 1998). This linear model or pipeline model has been refuted by many authors (Leeuwis & Van den Ban, 2004; Spielman, 2005; Röling, 2009a) for its limitation to trickle down the development benefits to many smallholders in Asia and Africa.

Recently many authors (e.g. Wettasinha *et al.*, 2008; Waters-Bayer *et al.*, 2009) have coined the term '*local innovation*' to recognize local people's own initiatives and to stimulate learning about how to strengthen local capacities to adapt to changing conditions, in collaboration with other stakeholders. Acronyms are '*farmer innovation*' (Assefa & Fenta,

2006; Reij & Waters-Bayer, 2001) and '*rural innovation*' (Sulaiman *et al.*, 2006) used more specifically in the context of smallholders and rural settings respectively. The concept stresses scientific knowledge coming from research organizations and other sources as an important, but not the only input for innovation. Linking different knowledge systems e.g. scientific and local or farmer or informal is essential for developing effective innovation (Hoffmann *et al.*, 2007).

Local innovation in agriculture and NRM is the process through which individuals or groups in a locality develop and apply new and better ways of managing the available resources - building on and expanding the boundaries of their indigenous knowledge (Waters-Bayer *et al.*, 2009). Local innovation can be viewed both as processes and as products, and vary from hard-core mechanical implements to soft institutional innovations e.g. farming techniques or ways of organising (marketing, networking, communication, information and accessing resources). Important realization is that one innovation may trigger a series of '*local innovations*' with an 'S'. For instance, night-paddock system in Babanki, Cameroon – where Fulani farmers enclose their cattle over night on a harvested field and leave the dung in the field – led to contracts between farmers and herders, a new harvesting tool, an irrigation system, live fences for paddocks, the growing of fodder grasses (cf. Hoffmann *et al.*, 2007). It follows that we should shift away our attention from simply understanding innovators as inventors, and rural producers as users of innovations, to a focus on how innovations are continuously improved upon through interaction between the various actors (Friis-Hansen & Egelyng, 2007).

Individual learning does not suffice to enhance the process of such innovations. It is necessary to enable simultaneous learning of interdependent stakeholders. Many authors (e.g. Röling, 2002; Leeuwis & Van den Ban, 2004; Wals, 2007b) used the term '*social learning*' to explain such type of learning process. Some authors (Koutsouris & Papadopoulos, 2003; Glasser, 2007) argue that individual learning is also a social process since it does not take place within ones' mind but through an interplay between an individual and a context. Then what does the term '*social learning*' indicate? This is associated more to the types (procedural) or/and forms (processes) of learning (Koutsouris & Papadopoulos, 2003). Researchers and practitioners use the term drawing from different theoretical perspective, disciplinary heritage and language. In this paper we use the concept of '*active social learning*'- a process through which learning builds on conscious interaction and communication between at least two living things (Glasser, 2007,). The process of learning needs some form of participation, which can be hierarchical, non-hierarchical and co-learning. This paper focuses on '*co-learning*' that requires critical evaluation of existing knowledge and problems, knowledge generation and penetration, and application of this new knowledge to policy, practice and everyday life. Analogy to this is *double loop learning* as explained by Argyris & Schön (1996), which indicates learning that alerts values, certainties, goals, rules and assumption that one acted upon previously.

Wals & van der Leij (2007) claim that social learning takes place at multiple levels i.e. at the level of individual, group or organization or at the level of networks of actors and stakeholders. In line with Glasser (2007), whether takes place at individual or at groups, we understand learning that involves some form of input drawn from others. This happens when divergent interests, norms, values and construction of reality meet in an environment that is conducive to learning. Communication plays a vital role to enable an environment for learning. Fundamentally, it is closely related to form of communication preferably through face-to-face interaction. It draws on Habermanian explanation of communicative rationality that people can solve problems, i.e., reach individual goals, through negotiation, deliberation, co-operation, and agreement about a shared definition of the situation, leading to consensus (cf. Röling & Maarleveld, 1999). An important aspect of the communicative rationality is the '*ability to communicate*'. Relevant actors need ability to communicate in order to solve social conflicts discursively i.e. learning discursively from multiple perspectives. What follows, we need a mean (tool, method, approach, media) to organise communication and interaction in

order to arrive at common starting-points and design fitting and acceptable innovations (Röling, 1996).

In this paper, our aim is to understand whether PV has potentials to enable learning that enhances local innovation. Many authors (e.g. Leeuwis & Van den Ban, 2004; Wals, 2007a) consider following critical events as enabling conditions for social learning in practice.

- (i) Awareness of the problems/issues at stake: Eliciting one's own frames relevant to the issues or challenges identified.
- (ii) Mobilization of the relevant actors: Actors become interested about the challenges through articulating and challenging one's own and each other's frames through a process of clarification and exposure to conflicting or alternative frames.
- (iii) Involvement of the relevant actors: Actors start (re)construct ideas, usually jointly, taking input from one's and others' deconstructed frames and alternative ideas.
- (iv) Establishing solutions: Translate emergent ideas into actions.

Drawing on theories and concepts associated to these critical events we shall focus our discussion and reflection about the selected PV cases on two main aspects of social learning. Firstly, likelihood that PV can leverage conditions for rural clients and other stakeholders to communicate each other's perceptions, interests and to create a feeling of interdependence.

Related to the communication ability it is important to look into the contribution of PV in unfolding tacit domains of knowledge and supporting cooperation and mutual learning with explicit ones. Social learning for local innovation restrains due to conflicting and contradictory methodological, and epistemological views of scientist, development workers and farmers. These knowledge bodies have antagonistic relationships and impede social learning process for many reasons e.g. lack of time for interaction, different life-worlds, working methods, interests and priorities, lack of trust and knowledge hegemony (Schneider *et al.*, 2009). According to Rist *et al.* (2006) key aspect of social learning is the development of emotional expressiveness, empathy, intuition and inspiration between different knowledge bodies. Another important aspect is to increase awareness of the interrelation of one's own and other participant's forms of knowledge and underlying ontologies (theories of 'objects') and epistemologies (theories of knowledge). Social learning is about simultaneous transformation of cognitive, social and emotional competencies as well as of social capital. Many studies (e.g. Thompson & Scoones, 1994; Arce & Long, 1992; Leeuwis & Van den Ban, 2004) confirm that '*dichotomy*' of knowledge as '*local*' and '*scientific*' or so forth does not suffice to support learning for local innovation. Knowledge is socially constructed which is mediated and enriched through negotiation and cooperation of different sources (actors) of knowledge. Scientific or instrumental knowledge understands the reality as an objective truth. Scientific knowledge is easy to communicate since it encompasses data, scientific formulae or manuals and packages. In contrast, tacit knowledge is a personal knowledge embedded in individual experiences and involves intangible factors such as personal belief, perspectives, and values systems (Nonaka & Takeuchi, 1995). Tacit knowledge is relatively difficult to formalize, codify and/ or communicate (Schneider *et al.*, 2009). Role of learning tools such as PV is, therefore, to visualize and explicate tacit knowledge in a form conducive to communicate. It relates to the concept of *communicative knowledge* or *communicative domains of learning* (Mezirow, 1991) which includes learning to understand and negotiate what others tell and describe intentions, values, beliefs and feelings rather than simply act on those of others.

5. PRAXIS OF PARTICIPATORY VIDEO: SOME EVIDENCES ABOUT MULTIACTOR LEARNING PROCESS

In a development scenario, actors (such as project administrators, managers, facilitators and process leaders and target groups) are quipped with differing background interests, different resources (knowledge and materials) and scope for action. For the actors to play their own

roles in determining development measures there should be the culmination of a process of negotiation, where media² has a supportive role, especially in eliciting dialogue and learning (Hoffmann, 2000: 169). Policy makers often overlook concerns and proposal of people living in remote, rural areas. Hence, they lose the opportunity to learn to make policy locally relevant. Video can be used to bridge communication gaps between communities and policy makers by drawing attention of policy makers about the concern of marginalized stakeholders and letting them learn from the mediated interaction with distant stakeholders (Witteveen *et al.*, 2009). Videos serve the function of activism or advocacy or lobbying and learning takes place between actors of different hierarchical levels. To indicate such process, in line with Ferreira (2006), we use the term '*vertical learning*'. We use the term '*horizontal learning*' to describe the direction of communication and learning process that takes place through a horizontal communication process within networks and via stakeholder platforms where opinions, needs and interests of different stakeholders are shared in a mediated way for negotiation, conflict resolution and encouraging action (Lie & Mandler, 2009). In both forms, the role of the '*teacher*' or '*expert*' and '*learner*' or '*laymen*' is interchangeable. Learning in either or both directions may be the focus of the PV process, depending on the type of development problem. We review following cases to understand the potential of PV for enabling multi-actor learning process.

Case 1: Unfolding multiple realities about the forest conservation plan in Tanzania

In the northern Tanzania PV was used to document the opinion of pastoralists (Masai) living in the Ngorongoro Conservation Area (NCA) before the approval of a new management plan in 1995 (Taylor & Johansson, 1996). The donors and facilitators (NCAA i.e. Ngorongoro Conservation Area Authority and IUCN i.e. International Union for Conservation of Nature) of the project were of the impression that management plan was an output of participatory process where local residents (i.e. Masai) had substantial voice. Nevertheless, the PV process explored different realities of the Masai, and complaints about banning subsistence agriculture, non-representation of their traditional institutions. The video revealed that Masai had not been involved in the planning process. The planning process was monolithic and did not reflect the interest of the pastoralists. It turned out that PV revealed conflict no other media by contrasting local perception with the '*official truth*' (Johansson & de Waal, 1997). The process of video changed the relations among people within the community. Some conservationists, donor representatives, scientists and local leaders claimed that the video project was biased and irresponsible. Others saw strong evidence for the Maasais' arguments and supported a rewriting of the plan. In retrospect, the Maasai did not achieve much, but it would have been even worse off if the video project had not taken place (cf. Huber, 1999). This case substantiated potential role of PV in building ability of the marginalized to involve in dialogue and debate with multiple actors and thereby creating an opportunity to unfold diverse views, prejudices, biases, and strengths of the clients vis-à-vis other project actors (Taylor & Johansson, 1996).

Case 2: Enabling dialogues, discussions for mediations of multiple interests and perceptions about an environment unfriendly fishing practice in Tanzania

There was a dispute over the illegal dynamite fishing along the northern coastal districts Kilwa, Lindi and Mtwara in Tanzania. Development workers and project administrators accused fishing community for supporting and tolerating illegal dynamite fishing and their ignorance about the underlying environmental damage. PV was applied as a media to record participatory rural appraisal (PRA) workshops and then as a participatory tool (filming different interviews, including skills and fishing techniques of coastal inhabitants) for enabling interaction among a large number of people and groups in various hierarchical level

² Media is composed of three major components: symbol systems, message and the technologies of transmission. Media plays two super ordinate functions in communication: informing and developing mental skills (For detail see Hoffmann, 2000). PV functions symbolic communication of a real experience (mediated communication) containing a message, video being the central technology of transmission.

(Johansson, 1997). Huber (1999) analyzed this case to understand communication potentials of PV. His analysis showed that video used as iterative cycles of interviews and community screening created a rich picture of the problem and community's collective perception of the dynamite fishing. The experts and bureaucrats were surprised to know local people's deep analysis of the problem through iterative cycles of video activities.

Political leaders, police commanders, court authorities and the then Prime Minister of Tanzania watched the edited version of a video, titled '*not in our sea*', incorporating the materials of a five-days PRA workshop during different occasions. Reactions made by the higher officials were also video-recorded and incorporated in the subsequent versions, and shown in villages. In this way, PV brought dynamite fishing on the public agenda. Thousands of people along the long stretch coast and actors in various bureaucratic levels entered in a debate on fishing rights and practices. Dialogues helped to disentangled hidden interests of politician and bureaucrat in supporting dynamite fishing (Johansson, 1997; Huber, 1999). Both literate project actors and non-literate villagers, while making statements on video in dialogues, were psychologically detached i.e. they hardly noticed that their statements addressing a rebel (contradicts with the interests of powerful bureaucrats and politicians) with others. Marginalized segments within the communities were empowered to address the powerful actors.

The communication environment enabled opening up multiple interests concealed at various project hierarchy levels and provided a basis for negotiation (Masaiganah, 2000; Huber, 1999). The Prime Minister of Tanzania, after watching the video, drew a deep interest and attention into the matters of dynamite fishing. In some cases, the government officials and donors received the video recorded complaints and perceptions of the local people openly. As such, the process of video production and the edited version of the film created a sense of mutual interdependence between the community members and between the community and the actors in project hierarchy and served as an opportunity for mutual learning and conflict resolution. In other cases, authorities missed the opportunity for learning by denying the local perceptions and questioning the motives behind recording such complaints (Johansson & de Waal, 1997; Masaiganah, 2000).

Furthermore, fishing community produced a video explaining '*kavogo*', a fishing practice banned by the project authority as being harmful for the marine environment. They demonstrated why the practice is not harmful to the marine environment. Marine biologists who play a role as experts in negotiating over the policy related to the coastal conservation usually know much about the technical details and the biophysical environment of the sea and coastal area. PV depicted that they had little knowledge about how a traditional fishing method rely much on a harmonious relationship with the local coastal environment. A written description about required depth for diving would have been less convincing to the biologist. But videos facilitated an exchange of knowledge associated to different stakeholder groups (Johansson & de Waal, 1997; Huber, 1999).

Case 3: PV for articulation of the community voices about their problems in Vietnam

A project was undertaken with the financial assistance of Oxfam in Ky Nam, a coastal commune of the district Ky Anh in Vietnam in 1995 (Braden & Huong, 1998). It was a mini-action research project intended to understand potential use of PV in participatory process, including use of PRA, for articulating community voices about their own problems e.g. corruption in the only primary school, flooding and unavailability of irrigation water. Huber (1999) analyzed the case to understand communication functions of PV. His analysis revealed that video served for a constructive negotiation process between stakeholder groups (e.g. parents and headmaster) at school-related meetings. Video encouraged people to speak out the hidden truth (forcing children to work for the teachers and collecting illegal fees), which in turn increased accountability of the school authority into matters of facilities of the school. One women stated, '*(...) we are not afraid, because it is the truth*' (Braden &

Huong 1998: 75). Villagers reported that they would not dare to express their views so directly in previous school meetings. Video potentially transformed privately made statement into public and thereby brought truth in the front stage. Videos on the problems of sea dyke and irrigation water served as policy lobbying and raising awareness for support to the community. Although fund-raisers had not been successful in terms of attracting the donors until the visit of the researchers, Braden & Huong (1998) are of the opinion that awareness for people's main problems (e.g. seawater flooding, irrigation and water storage and corruption in primary education) in Ky Nam was arguably more widespread than before the project.

Case 4: PV for soil-nutrient technology development with women in Jamaica

PV was used as a component of an integrated communication approach in Jamaica where awareness and sharing of soil management activities, skills and knowledge were less evident (Portz, 1998a). Local women participated in PV process to document their views and skills about local soil management practices. The results suggest that video recording and screening activities created an opportunity for marginalized women to speak up and to disentangle gender relationships (Portz, 1998b). Usually few women and men dominated to represent the community. PV process created an opportunity for inclusion by shifting attention from a few who dominated in the community. Women involved in video production gained self-confidence to express their views about farming and soil management practices. Video increased emotion about their own capacity and gave tremendous satisfaction and pride that enhanced their confidence to bargain with other men and women. Video also improved communication between local and scientific knowledge (Portz, 1998b). For instance, a few indigenous soil-fertility practices documented through video served for the benefit of other farmers' experimentation. A woman claimed that she discovered saila (*Clusia flava*) as an important source of soil nutrient, which increased her crop production to a substantial extent. The video drew the attention of the scientists. A laboratory experiment on saila provided a scientific proof about the local practice of the woman who explored it based on her many years experience.

Case 5: Strengthening women's group for market oriented food production

The Government of Fiji supported the Navua Rural Women's Telecentre Group (NRWTG), the goal of which was to sell their various food products to the civil servants in Suva via e-mail instead of selling by the roadside. After few successful deliveries, the group lost the internet connection due to their internal disputes. Members of women groups participated in a PV workshop and produced a promotional video to help selling their products to a variety of clients in Fiji, such as civil servants, hotels, and tour-company operators. An important goal of this PV workshop was to observe how communities engage with participatory media and processes of production for empowerment, and the implications for dialogue, community building, and representation within Fiji's fragmented multicultural society (Harris, 2009). Video production process with women's group revitalized social capital within Fiji's fragmented multicultural society (Harris, 2009). Women groups engaged more in reciprocity for production of their video. Participation and reciprocity were more than expected - in the voice of a woman, *'we share what we know, it is a give and take'* (Harris, 2009). Video brought everyday lived experiences into the public realm and evoked mutual interdependence, the relationships and the collective agency of diverse groups in the daily construction of community. The video tapes helped the bureaucrats to reassess their own prejudices about the women groups. The video images had legitimized women's work and envisaged rural women in positive perceptions by the bureaucrats. Harris (2009) is of the opinion that skillful use of technology and confident appearance of women in front of the camera re-presented themselves as active citizens capable of negotiating their own future, instead of depending on the state to intervene through top-down mechanisms into the matters of supporting local food production and marketing.

Case 6: Enhancing community's analysis and reflection on rural energy crisis in Malawi

The government of Malawi took an initiative to enact a policy for rural energy and natural resource management in 1997. The analysis led by the policy makers focused on narrow research questions and external technological solutions e.g. energy-saving stoves. As part of a mini-action research PV was used as a tool with communities to research, reflect and analyse their own problems and to represent themselves directly with policy makers (Braden & Nelson, 1999). The researchers are of the opinion that mechanical application of PRA as a toolbox often confused the participants. Braden & Nelson (1999) stressed that if they would produce a report as an outcome of only PRA it would lack a community voice and community understanding of the implication of the work in which they think they '*participated*'. Instead the selective use of PRA along with video helped villagers to review critically their decisions (e.g. diagram) about whom to address and about which issue and how their presentations were received by policy makers, NGOs and donors. Villagers become aware of the cause and solution of the energy crisis and facilitators become more serious to listen and learn. Village video served as a mediation tool by helping to analyse sensitive issues, such as land allocation and tenure. According to Braden & Nelson (1999) PV helped to facilitate and strengthen participation and involvement of the non-literate community members in policy-making and environmental management.

Case 7: Analysis, reflection and monitoring local knowledge for the transition to privatized farming in Turkmenistan

Insight, a UK based PV practitioners' organization, applied video for analysis and reflection on local practices and as a tool for policy communication on issues of agriculture and NRM in several Asian countries (Turkmenistan, Pakistan, China, and Nepal). Their works (see Lunch, 2007; Lunch & Lunch, 2006) substantiate that qualitative local stories can enrich policy by monitoring and mirroring the local context. Video stories can open up new possibilities for wider communication and encourage broad participation and consensus within a community. For instance, Turkmenistan, a former part of the Soviet Union, experienced the post-soviet transition to free market and privatized family farming systems. This transition necessitated broader knowledge base (technical, managerial and institutional) for family farming to survive (Lunch, 2004). The authors used PV and PRA tools with the members of the voluntary farming associations (VFAs). It was necessary to learn from experienced farmers in the community on traditional methods of conserving water, storing produce and drying fruit. This traditional knowledge still existed, but was held by a small number of individuals (Lunch, 2006). In videos, experienced farmers gave tips about farming practices, and management of a specialized farming enterprise. At the beginning of PRA workshop, women did not want to participate. When facilitators introduced PV, it created excitement and women started contributing their experience. A woman described how they prevented flies from damaging stored grapes by smoking with a special plant, her husband being behind the camera. This is certainly an important contribution of PV to bring the local knowledge to the fore through representation of women, which otherwise would remain tacit. Likewise, another film guided discussion disentangled that many farmers could not use greenhouse because either lack of knowledge or lack of funds for building materials. The community member suggest necessity for village-wise knowledge sharing and micro-credit scheme as solutions to the problems (Lunch & Lunch, 2006).

The cases described indicate that PV mediates learning both in vertical and horizontal direction. In order to reach out to large segment of rural clients i.e. farmers, pastoralists and to build their capacity on farming and natural resource management, participatory use of video is becoming an important element within an integrated communication approach. Although learning takes place in both directions, the focus is to enhance peer-to-peer learning pathways using the final film as an adult learning tool. Local clients are involved in content development, video production and validation, although kind and level of participation

may vary (Lie & Mandler, 2009; Van Mele, 2009). They may not be involved in technical intricacies of filmmaking. A professional may be involved to ensure certain level of the quality of the final outputs, which served for peer-to-peer learning process. It follows a flexible approach for supporting learning in a local innovation system. The video is used in informal group learning session or in classroom training. Distribution through other service intermediaries and broadcasting in national and local cable network may also be desirable. We reviewed following three cases having a focus on enhancing farmer-to-farmer learning.

Case 8: Using video as a adult learning tool in a multi-actor project setting in Mexico

PV for facilitating adult learning was introduced in Chile in the 1970s and then in Peru. A major function of PV was to include viewpoints of peasants in research and development of the project. Video materials were part of a training package on agricultural practices and techniques (Lie & Mandler, 2009). FAO adopted this approach in the PRODERITH³ (1978-1984), a project undertaken to increase agricultural production and productivity and to improve the living standards of peasant families and conserve natural resources in Mexico. In the first phase, 345 videos were produced, which were shown to more than 260 thousand audience in about 8200 sessions (Fraser & Estrada, 1996). Huber (1999) analyzed the case to compare functions of PV with a participatory communication model. His analysis showed that video played an important role for eliciting internal debates among the peasant e.g. video on Mayan culture helped peasant and project staff to understand their culture and situation. The interplay between expressing views on video, watching the video, reflecting on it and then expressing new views brought forward a rich picture of the community's problems and suggestions for solutions (cf. Huber, 1999). Reflecting on the statement of peasants from their own village was like '*looking into a mirror*' (Fraser & Estrada, 1996). Likewise in Peru, video archival material served as an institutional memory since these were better and equally comprehensible and accessible to both project administrators and illiterate clients than stacks of paper and tiresome project documents (Fraser, 1987). Nevertheless, the initiative in Peru received criticism as being costly. Furthermore, existing political and institutional ambience hindered use of video as an open communication channel and its use was limited to training other farmers. Experience in Mexico is quite different. In contrast, video created horizontal and vertical communication channel within the centralized and top-down process of participation in Mexico.

Additionally, PV served to deploy an opportunity by the local people to negotiate a technical design of drainage to protect flood in a PRODERITH area (Fraser & Estrada, 1996). A peasant explained his opinion in video about why he considered the design as faulty using the diagrams in the soil to illustrate his points. After watching the video, technician studied the situation again and found that the peasant had been right. The engineers considered his opinions and changed their plans. If the concern of the peasant was documented in written material using the participatory rural appraisal (PRA) instead recorded in video, it would probably have received less attention to the engineer (Huber, 1999).

Case 9: Learning potentials of video developed on cocoa management practices in Ghana

Farmer field schools (FFS) programme trained farmers on several local management practices (pest and crop) of cocoa cultivation in Ghana. The graduates of FFS documented their experience about the innovative cocoa management practices through PV (Akrofi, 2006). Adu Kumi (2007) conducted an exploratory study to understand social learning potentials of video using three out of nine video catalogues developed by the FFS graduates. The study depicted that researcher and farmers involved in dialogue and discussion along the video mediated learning process on the cocoa management practices. Viewers (farmers participated in her study) did not only consume the video message rather they reflected and provided valuable information on suitability of practices considering cultural and gender

³ Program de Desarrollo Rural Integrado del Trópico Húmedo

norms (e.g. climbing tall cocoa trees by women shown in video). Films have inspired farmers to reflect their own situations and field experience. Video presented experiences that resonated with the real life of other farmers. The farmers realized that they shared many of the same problems of cocoa production and capacities to solve those. This is probably, we can say, a power of video-mediated experience. Additionally, the researcher has noticed that collective viewing of video created a stimulus for sharing their views and perspectives. Initially intended only for cocoa farmer, video attracted other intermediaries such as farmers' organization, cocoa buying agencies, and development organizations. This is an opportunity to offer learning along the strategic partnership building.

Case 10: Zooming in and zooming out: A potential approach for enhancing learning in the local rice innovation system in Bangladesh and Benin

A new approach for local video making and organizing farmers learning process pioneered in Bangladesh⁴. Africa Rice Centre has progressively integrated the approach into their adult learning programme. It draws on principles of the participatory learning and action research (PLAR), an approach meant to promote technological and institutional innovation based on farmers' knowledge and capacities (Van Mele, 2006). Farmers and facilitators identify local knowledge and/ or innovations having regional relevance through participatory research activities. Rural men and women play an active role in identifying ideas, principles of technologies and in preparing the script, featuring in the video and validating the final content. As opposed to conventional PV project, the approach followed less participatory process where professionals and facilitators managed technical intricacies (operating equipment and editing) of making the video. As the '*zooming-in*' progresses, so starts the '*zooming-out*' with the organization of video mediated group learning sessions in multiple villages. Observations to identify additional alternatives and solutions to a given problem also continue in this phase. Two phases may run in parallel and hence called '*zooming-in zooming-out*'.

The approach has so far applied to support local innovation about management, processing and post-harvest of rice and seeds. Studies show that the video production process changed the attitude and mindset of the researchers and development workers. Both in Bangladesh and Benin researchers and development workers started using farmers' concepts in explaining local innovation (Van Mele, 2006). In Benin, NGO staff no longer mentioned about amount of temperature needed to parboil rice. Instead, they started using concept of using fingers to check optimum level of heat for parboiling rice. In Bangladesh, researchers and development workers started using women's concept of seed dryness instead of scientist's concept of moisture level to explain optimum level of moisture in seed. Reactions of processors and millers were antagonistic when asked about the reason of poor quality of rice in Benin. It turned out that drying for too long in the hot sun caused minute cracks in the grain. These cracks result in high breakage during milling. Balance views of different actors in the rice value chain e.g. rice farmers, processors, millers and sellers along with scientific information presented in the video facilitated better mutual understanding (Van Mele, 2006).

Video mediated learning session is more effective than conventional training to influence decision of rural clients for trying out a local innovative practice (Zossou *et al.*, 2009b; Zossou *et al.*, 2009a). It takes the form of informal learning ambience and is more likely to influence reflection and creativity among the learners. After watching the videos women in Benin paid more attention to reduce the loss of steam during parboiling and to use local resources innovatively to conserve energy. In video villages, women had equal chance to watch the videos. Furthermore, investigations confirmed that participants are more likely to share what they have learnt in case of video villages compared to farmers of villages where

⁴ The approach is pioneered during 2003-2005. Partnered with Rural Development Academy and a women led national NGO Thengamara Sabuj Sangha (TMSS), CABI UK managed Learner Centred Video Implementation (LCVIP) and Good Seed Initiative (GSI) Project in Bangladesh. Activities of GSI are extended by collaborating with another NGO named as Agriculture Advisory Services (AAS) and, continued to till date.

only traditional workshop sessions were organized. Women in Bangladesh (Van Mele *et al.*, 2007) not only started trying the practices showed in videos but also started experimenting their own ideas and come forward with new innovations (e.g. new plants for repelling pests, storage containers).

Moreover, development workers who showed videos in numerous villages learnt about many more local innovations, not only dealing with rice. Male researchers indicated that they were impressed with some of the local innovations shown in the videos and changed their mind about working with farmers (Van Mele *et al.*, 2009). They developed keen eye and ear to spot local innovation. After NGOs showed the videos in their working area, their relationship with the clients improved. In Benin, NGOs increasingly realized importance of visual aids during their interaction with women. The organizations in Bangladesh and Benin started facilitating easy access to micro-credit for women to expand rice seed and parboiling activity into an enterprise respectively (Van Mele *et al.*, 2007; Van Mele *et al.*, 2009).

It turned out that participatory video production and utilization has potential for stimulating local ideas and practices and creating series of technological and institutional innovations and social inclusion. This is also significant in the context of scaling out sustainable agricultural practices cost-effectively. About 1400 videos shows were organized in two years reaching about 131 thousand poor farmers in Bangladesh (Van Mele *et al.*, 2007). On the other hand, 176 organizations had copied of the rice videos by the early 2009 in Africa (Van Mele *et al.*, 2009). While only 6300 farmers watched the videos in 2006, viewers increased more than 130 thousands by the end of 2009 in Africa. Exchange of VCD or DVD seems to build trust among different stakeholders. Van Mele *et al.* (2009) observed that a request to exchange a VCD was a good way for actors to get to know each other and to explore common interests.

6. DOES PV ENABLE LEARNING FOR LOCAL INNOVATION? REFLECTION ON THEORY AND PRAXIS

6.1 Empowerment through visual and discursive learning process

By using the concept of '*positive deviants*', Pant & Hambly Odame (2009) argue that there are individual farmers, farmer groups and grassroots organizations who make their voice heard through various direct and indirect mechanism in the local rice innovation system in Nepal. They directly initiate change through spanning the traditional boundaries of their organization and indirectly influence decision makers through activism, such as lobbying, boycotting or protesting. They argue that this is an important attribute of '*the capacity to innovate*'. There are few actors as being '*positive deviants*' and we need to facilitate the individual and collective intelligence of them at different levels e.g. farms, organizations, networks and system. Given the hierarchical research, extension and education system that prevail extensively in many developing countries, how can we facilitate learning towards development of such capacities?

PV has the potential to facilitate learning in both horizontal and vertical direction. Towards vertical direction it functions more as a tool for activism. Iterative cycles of PV draw the attention of community members and bureaucrats. By watching the video higher authorities became more serious in understanding local realities and also supporting local opinions in case of dynamite fishing in Tanzania, community problems in Vietnam, and inclusion of knowledge of local people in planning and monitoring in case of forest conservation plan in Tanzania and rural energy policy in Malawi. Cycles of PV activities create a process of self-awareness and/ or critical consciousness and lead to self-determination and self-control among the primary stakeholders as observed in the cases of fishermen and pastoralists in Tanzania, community members in Vietnam, members of the women groups in Fiji and marginalized rural women in Jamaica. Paulo Freire who is known for his theory of adult learning, called '*pedagogy of oppressed*' (Freire, 1972) proposed learning as '*problem posing*

approach’ challenging the learner, not only to know how, but also to develop interest in why a technique or tool performs the way it does (Odutola, 2003). In explaining Freire’s model Witteveen & Enserink (2007) state that when learners recognize that they have choices, they begin to develop ‘*critical consciousness*’ leading to a better perception of social, political and economic contradictions and to take action against the oppressive elements of reality. PV plays a key role in communication not as a media for transmission of information but as an egalitarian and emancipatory dialogue. We observed that PV helped marginalized to get in touch with their sources of marginalization through a dialogical process leading to awakened and enhanced ability to identify their own solutions. Farmers and rural clients were able to express their own values and attitude and formulate their own problems and solutions.

What are additional values of PV compared to the conventional participatory tools and methods (Chambers, 1989) in empowering marginalized community? Reflecting on the cases where PV and PRA was used in combination such as in the cases of dynamite fishing, analysis of community problems in Vietnam, and energy crisis in Malawi, and monitoring local knowledge in Turkmenistan, we observed an important value of PV in empowering marginalized community through promoting ‘*visual literacy*’. Vast majority of the poor in developing and developed countries usually lack literacy or functional literacy. The domination of written literacy over other forms of communication has proved a barrier for poor to represent them (White, 2003b). Visuals and tangible used in participatory methods such as PRA are, therefore, by no means powerful tools for increasing analytical and negotiation capacity of the poor people. However, maps, rankings, and diagrams often result in written reports, which may lack a community voice and community understanding of the implications of the work in which they have ‘*participated*’. Challenges include motivation and enthusiasm that rural development actors are facing to document the context (e.g. who intervenes, how often, behaviour, attitudes and mindsets of those who participate and use the tools) of the process and constraints in sharing the results (Cornwall & Guijt, 2004). There is a danger that conventional documentation may tend to exaggerate the importance of a ‘*finished*’ PRA diagram at the expense of the process of developing it, which may extend over an hour or more. A photograph or a drawing can capture only one ‘*particular moment*’ of a diagram. PV establishes the broader setting of the discussion (who dominates, gender, classes, places) and represents participation as a kinetic process (Braden & Nelson, 1999). It can also create additional motivation and excitement for the rural development professionals to listen, reflect and learn from the participatory process (Masaiganah, 2000; Smithies, 1997). Ghose (2007) applied PV and PRA in combination indicated that use of video had a relative advantage to reflect on the controversies of Bt cotton in India in farmers’ terms of reference. He commented that use of video opened up new doors of inquiry and analysis that, otherwise, might be missed out.

PV complements learning processes through creating a communication environment for discussion, dialogues and negotiation. Conventional participatory methods view participation as a rational process towards consensus and cooperation and are weak in conceptualizing and dealing with conflicts, power structures, and existing institutional ambience such as norms, values and interests (Leeuwis & Van den Ban, 2004; Cook & Kothari, 2001). Participation of minority groups and inclusion of their knowledge are usually constrained due to their inability to communicate and constraining cultural and institutional milieu. Witteveen & Enserink (2007) argue that video mediated participation has a strong role of simulations as it provides an opportunity to an intense experiential learning experience that is difficult to achieve with traditional written and/or printed means. Video encompass words and body language, which are very important for the ability to communicate (Witteveen *et al.*, 2009). Only in moving pictures, we can see facial expressions, the eye movement, the rhythm of breathing and conversations, the gestures, the emotion and the tension. In the cases of forest conservation plan and dynamite fishing in Tanzania, analysis of community problems in Vietnam and Mexico and rural energy crisis in Malawi, when communities and authorities watched the video individually or together, they did not ‘*consume*’ the information and actively engaged to exploit it. Illiterate and poor may not be able to apply and understand

different layers of communication (Leeuwis & Van den Ban, 2004) deployed through written means. They are equally capable to express themselves in videos (through verbal and visual means) compared to those powerful literates as demonstrated in aforementioned examples of PV application. Having watched divergent of interests, and noticed the power of videos to spread prejudices and biases both rural clients and their authority felt interdependent. PV can minimize, what Witteveen *et al.* (2009) explained as '*self-referentially*'-changing frames of reference of people through opening their minds to the ideas (of others). It may be due to the realization of the opposing views of the various stakeholders that lead to self-reflection (Witteveen & Enserink, 2007b) or may be a feeling of threats and/ or urgency about the issues (Leeuwis & Pyburn, 2002).

Braden (1999) argue that final film of PV is representative since it offers '*image of*' an individual or group, and the video tape can be speaking '*on behalf of*' when a group has agreed that it should be used to carry a message they have developed. It can enable localized discussion, dialogues, analysis and planning activities as video being the '*intermediary object*'⁵ for negotiation and mediation of multiple perspectives. Cross-sectional views and perspectives of the community actors recorded in a video represent the collective views of the community. The video (film) can play role of the '*intermediary object*' when it demonstrates collective understanding of the problems and solutions (Schneider *et al.*, 2009). PV supports the community and the actors in different hierarchical levels in a multi-actor project setting to convey their prejudices, biases, and learning process. It provides a '*safe space*'⁶ (Witteveen *et al.*, 2010) that enables different stakeholder groups to express '*subjective*' criticism and reflection instead of only expressing their '*objective*' wishes and interests. Video mediated '*safe space*' removes physical and psychological barriers among multiple actors who are usually engaged in knowledge and power relations in a local innovation context. Authorities may not heed to the verbal complaints of those marginalized people but they may watch the videos and feel threatened and or urgency by its dissemination. As such, PV helps to transform '*strategic rationalities*' to '*communicative rationalities*' in both horizontal and vertical direction. The space allows learning process to emerge for different stakeholders. Having analysed the cases, we can argue that PV has potential for creating space for stakeholders' dialogue, discussion and reflection. The communication space is likely to create equal opportunity to understand each other's contradictory and/or complementary perceptions and a feeling of mutual interdependence.

6.2 Bridging the gaps between different knowledge bodies

PV creates a communication environment that enhances cooperation among different actors affiliated to different knowledge bodies. For instance, the case of dynamite fishing in Tanzania demonstrated that local people could exchange perspective of local practices with the scientific understanding of marine environment through PV. On the other hand, farmers could negotiate design of drainage in the PRODERITH project area. Local actors and scientific community expressed their views in videos, which stimulated understanding of the real problems among the actors in rice-value chain in Benin. Again, PV increased pride and self-esteem of the local knowledge in case of soil nutrition management in Jamaica and articulated local knowledge to suggest solutions to adapt to the changing conditions of

⁵ Reflecting on the Swiss soil protection 'Farmer-to-farmer' project Schneider *et al.* (2009) introduced the term *intermediary object* in case of joint film production and dissemination. As an *intermediary object* film helped participants (farmers, experts and scientists) to communicate to their organisations the individual learning processes in the accompanying group. Albeit there was controversy about the contents and possibilities of using the films for knowledge exchange in the beginning, participants developed a shared understanding and certain feelings of ownerships of the project and films in the end. As an *intermediary objects* films have advantage of conveying explicit as well as tacit elements.

⁶ Witteveen *et al.* (2010) used the term '*safe space*' in case of assessing visual problem analysis, a film based simulation process used in the context of classroom educational setting. They concluded that film based mediated learning helped students to pull out from their comfort zone and made them reflect on what they learn, how they perform in a team. '*Safe space*' as created by the film based learning process allows the participants an opportunity for reflection and deep realization about the controversial and contradictory stories of different stakeholders.

farming system in Turkmenistan. In Fiji, PV revitalized social ties and reciprocity in sharing local capacities and knowledge. In the case of soil nutrient management in Jamaica, PV supported articulation of soil management knowledge of a woman to the scientific experts. Portz (1991) argue that it is possible to document the local knowledge in a way in the video that raises status of the knowledge and makes it more comprehensible than interviews and traditional types of data collection. Audio-visual testimonies provoke local knowledge and policy change by raising status and enhancing ownership of local knowledge and ideas and creating awareness how local ideas contribute to informing decision (Portz, 1998b). Local knowledge draws on vast resources of tacit knowledge, metaphors, performative and narrative forms that may not be always possible to capture in written reports and plans. Leeuwis & Van den Ban (2004) argue that a lot of local farmers' knowledge embedded in practical routines, contextual experience, skills and physical memories that are difficult to explain. Video recordings can afford opportunities to share information as social discourse and to analyse, devise, and represent it both within and beyond the local contexts (Braden, 1999).

Besides visualizing and codifying tacit knowledge, PV also stimulates local people about their own knowledge capacity to solve existing problems. PV provoked realization of the community members about the importance of traditional knowledge for coping up the transition to free-market in Turkmenistan. Videos on cocoa management practices have the potential to stimulate reflection of the viewers about their own practices. Similarly, the rice seed videos provide important insight in making tacit knowledge explicit and bridging gap between local and scientific knowledge in Asia and Africa. Rural women when exposed to the rice seed and post-harvest videos they did not only consume but also reflect on the message. It is probably due to the reason that they meet real people who have similar problem at stake. The video has power to convert '*mediated experience*' into '*direct experience*' in an educational setting. When participants watch representative actors (farmers, scientists and others) featured in the videos the latter become '*mediated experience*' for the former. After assessing a film based problem analysis method applied in a education setting for the rural development professionals having interest in the coastal management issues of Kerala in India, Witteveen *et al.* (2010) indicated relative power of video in mediating real life experience as the activities and emotions of the participant in relation to the videos appear to be real. It allows participants to reflect on their common images and their usual behaviour when they meet representative image of others e.g. farmers, fishermen and women in the video. The power of such mediated experience might trigger women and others, in several cases we discussed, not only try to follow the techniques shown in the videos but also think and try many of their own relevant techniques. As such many '*in-house*' techniques came to the fore, which otherwise would remain tacit.

Different cases described in section five indicate that participatory video production and utilization of the film can create openness in the mind of the researchers, administrators, and planners regarding local knowledge and local perspectives. More specifically, the researchers and development workers changed their attitude positively to identify, know and explain local innovative practices in case of dynamite fishing, soil nutrient management, PRODERITH, rural energy and local rice innovation. According to Hoffmann *et al.* (2007) this is an important way to create collaborative environment between scientist and local clients. Both production and watching the videos contributed to the negotiation and mediation of different knowledge bodies. The findings are in line with Schneider *et al.* (2009) who indicated that video production and watching was substantially associated to the emergence of mutual understanding, trust, improved relations, a broader and more contextualized understanding of the problem of soil conservations, as well as transformations in the underlying conceptions of knowledge in a multi-actor project setting in Switzerland.

6.3. Mere use of video is unlikely to make an impact: Issues of facilitation, institutions and participation matter

Having argued that PV has substantial potentials for enabling social learning in the context of local innovation we do not want to create a new excitement. However, caution that mere use of video may not automatically make any difference. There are some challenges that deserve attention. Facilitation skills are important considerations for potential use of PV. Facilitators need sufficient quality and mentality to learn several issues while implementing PV with a specific community. Researches highlight the role of intermediary organizations and facilitators for utilizing learning potential of media (Ramírez & Quarry, 2004). Facilitators need '*new professionalism*' and '*new capacities*' to listen and learn more than to dictate the process. One should be aware that community is not a homogenous entity. The complexities of heterogeneity and problematic boundary of community deserve attention for a careful analysis of politics, hierarchies, caste and gender relations. In addition to understand broad social and power relations there are some other practical considerations while implementing a PV project. In some societies, video might be more associated to entertainment than education (Portz, 1998b). Therefore, it is necessary to understand the expectation and proper awareness building about the purpose of video. Understanding video styles and/ or syntax (sequence, transitions, identity to major film industries e.g. Hollywood vs. Bollywood) may be critical (Witteveen & Enserink, 2007a). Whether people want to convey reality or aspirations (e.g. women may like to show their positive images rather than oppressive images) is another issue to consider (Portz, 1998b). Skills to handle religious and cultural taboos are necessary. Furthermore, facilitators need to be aware that people may tend to '*overreact*' or get intimidated by the technology (Odutola, 2003).

Institutional ambience also determines the success of PV. Despite having potential to create communication environment for institutional change, PV may not modify structural and institutional milieu overnight (Odutola, 2003). Although PV activities led to a *social space* by forming an NGO called *Shirikisho* in case of dynamite fishing, it was not vitalized due to lack of institutional space (Huber, 1999). Institutional mandate is necessary to harness the potential of PV. In case of rural energy case in Malawi, PV played an important role for community involvement in policy-making and environmental management. Researchers are skeptic that it would bring a long term change due to lack of institutional mandate (Braden & Nelson, 1999). On the other hand, the planners showed rigidity and questioned the qualitative data and motives of using video that highlight the rhetoric of participation in case of Ngorongoro forest conservation, and dynamite fishing in Tanzania. It is obvious to consider that planners and policy makers may react differently to the learning potential of PV (Sarkissian, 2007, Ferreira, 2006). Radical planners might understand PV as a tool for creating agency of marginalized clients against their power of oppression whereas conventional planners may react differently and understand PV as a tool for relationship building with the target community.

Related to the issue of institutions it is important to notice the cost and sustainability issue. PV may have limited impact if it is implemented as one-time activities (Plush, 2009). If the facilitating organization takes away the equipments after the project ends, empowerment impact may be short lived. It is necessary to ensure future access of rural people to the equipments (Braden & Huong, 1998). Again, the critiques about cost of video equipments reiterate in the development debates. However, recent technological revolution and increased access and availability of cheap video and editing equipments may surpass this argument. The gain in using the participatory video production for rural people's capacity building was ten times compared to the conventional extension methods in India (Gandhi *et al.*, 2009). If the final outputs (films) are valued, it may be difficult to justify the actual cost effectiveness. Sarkissian (2007) argue that the cost-benefit outcome may become palatable if one looks into potential of PV for learning and skill development, capacity building,

empowerment and relationship building. According to Braden (1999) the cost for conducting a genuine PRA session may also be comparable to a PV session.

Furthermore, the issues of participation also require due attention. There is strong emphasis on participation of rural people in every stage of PV process as much as possible. Practitioners (CTA, 2006) also argue that it may not always be necessary to hand over the camcorder to the farmers and rural clients while making video on a technological innovation. Different actors have different skills to offer in an innovation system. The case of rice seed videos indicates that articulation of rural people's voice is more important than creating additional burdens for rural clients in managing the equipment in a participatory process, while targeting farmer-to-farmer exchange of technological innovations (Wanvoeke *et al.*, 2009). This supports to assess participation of rural clients in PV process in terms of strategic advantage rather than ideological and normative arguments and definitions. Leeuwis & Van den Ban (2004) argue that participation is a contextualized process and maximum participation may not always be desirable in an innovation system. Kinds and levels of participation may vary depending on the goal e.g. stakeholder engagement and negotiation, stimulating learning among rural clients dispersed in wider geographical areas, using PV as a part of integrated communication system. Moreover, the experiences show that it is necessity to integrate PV with other media and methods e.g. radio, theatre, PRA, and PLAR in order to achieve greater impact in a local innovation system (Colom, 2009; Plush, 2009). Ferreira (2006) argue that the emergence of growing legitimacy of alternative media means that PV may have a new audience when coupled with an expanding internet, which provides a global audience.

7. OUTLOOK

Over the last decades, social learning has received considerable attention for innovation and sustainable development. Researchers proposed a variety of approaches and methods for social learning mainly drawing on face-to-face interaction. Far less attention has been given to media as a mean for social learning. In this paper, we described several cases to illustrate the role of participatory use of video for social learning. Our analysis shows that PV has power to leverage a relatively safe communication space in which both marginalized and powerful actors have the ability to communicate. It helps different actors to compare their 'subjective' and 'normative' perceptions and interest. The reflective process leads to a feeling of mutual interdependence, a precondition for shared or distributive cognition to take place. PV facilitates raising status of local knowledge and changing attitudes of the researchers and development workers. As such, it opens up mindsets of the researchers and development workers and facilitates better communication among different sources (actors) of knowledge. We argue that mere use of video has no guarantee for innovation. The potential of PV depends on institutional milieu, social competences of facilitators as well as intermediary roles of facilitating organizations. In order to get a deeper understanding about the power of video for mediating social learning, future empirical research needs to consider the following issues:

- How does participation of local client may vary according to the types and topics of the problems?
- What is the comparative effectiveness of different styles of participation in PV in enhancing local innovation system?
- Whether and how can, PV and PRA in combination be effectively used?
- Whether and how PV can contribute to the existing farmers' participatory extension and capacity building methods such as FFS?
- Whether and how can, PV be used as a participatory monitoring and evaluation tool?
- What are possible ways to use PV with other media e.g. radio, TV and ICTs, to enhance local innovation system?
- How does the type of intermediaries (e.g. NGOs, public institutes, and national media) affect impact of PV and its institutionalisation as a learning tool?

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